

Claims

What is claimed is:

1. An evaporation device for volatile active substances such as aromatics, insecticides, and the like having a housing (3) with a heating device (2) associated with the housing having a heating body (1) capable of being heated to an evaporation temperature of a volatile active substance, wherein said heating device comprises a synthetic heating body (1) made from a heat-conductive synthetic material.
2. The device of claim 1 wherein said synthetic heating body is made essentially of a partially crystalline thermoplastic material.
3. The device of claim 2 wherein said thermoplastic material includes polyamide.
4. The device of claim 3 wherein said heating body is composed of a type PA 6.6 polyamide.
5. The device of claim 2 wherein said synthetic heating body is reinforced by fibers.
6. The device of claim 1 wherein said synthetic heating body is heated by means of at least one electrical heating element (5) to the evaporation temperature.
7. The device of claim 6 wherein said electric heating element (5) is embedded in said synthetic heating body (1).
8. The device of claim 7 wherein said electric heating element includes an electric resistance heating element (5) having a rod-shaped resistance body (14) coated at least in part with a resistance layer (15) wherein certain areas of said resistance layer are

removed to provide a desired resistance value corresponding to an evaporation temperature of the active substance to be evaporated.

9. The device of claim 8 wherein said removed resistance layer areas include a spiral cut (16) formed about said rod-shaped resistance body (14) with a spiraling cut (16).

5 10. The device of claim 6 wherein said resistance layer (15) includes a metal oxide layer, and said resistance body (14) is made of a ceramic material and includes a metal cap (17, 18) placed on each end of said rod-shaped resistance body (14), with electric lines (11, 12) attached to said caps for connecting to a connector plug (13).

10 11. The device of claim 10 wherein said metal oxide layer includes a chrome alloy, and said ceramic material includes a high Al_2O_3 content.

12. The device of claim 1 wherein said heating body (1) is formed in part as a block with electrical lines (11, 12) protruding from prescribed surfaces of said heating body.

15 13. The device of claim 12 wherein housing (3) is adapted for fitting with a container (8) of a substance to be evaporated, and including a wick (7) extending from the container (8) having a wick end protruding through said synthetic heating body (1), and a wick passage formed through the heating body through which the wick end extends for the heating and evaporation of the substance in the container.

14. The device of claim 13 wherein said heating body is provided with a heat-conducting metal element (19) at an external surface area of said body.

20 15. The device of claim 14 wherein said wick passage is lined at least in part with said metal element (19).

16. The device of claim 15 wherein said metal element includes a metal ring inserted into said passage.

17. An evaporation device for evaporating volatile substances such as aromatics, insecticides, and the like comprising:

a housing;

5 a heating body formed from a synthetic heat conducting material carried with said housing;

a heating element molded within said heating body in heat-transfer relationship with said heating body causing said heating body to conduct heat;

a wick passage formed in said heating body receiving heat from said heating body;

10 a container carried by one of said housing and heating body for containing a volatile substance to be evaporated;

a wick carried in said container having a wick end extending through said wick passage so that the volatile substance is evaporated from said wick by heat transfer through the heating conducting material of said heating body.

15 18. The device of claim 17 wherein said heating body is made from a thermoplastic material.

19. The device of claim 18 wherein said thermoplastic material includes a polyamide material

20. The device of claim 19 wherein said polyamide is a type PA 6.6 polyamide.

20 21. The device of claim 18 wherein said thermoplastic material is reinforced with fibers.

22. The device of claim 18 wherein said electric heating element is encapsulated by molding with said thermoplastic material for heating said heating body.

23. The heating device of claim 22 wherein said electric heating element includes an electric resistance element having a rod-shaped body coated with a resistance layer, and including a spiral cut formed in the resistance layer to provide a given resistance value corresponding to an evaporation temperature effective for evaporating the volatile substance.

24. The heating device of claim 23 wherein said synthetic heating body includes electrical conductors encapsulated in and protruding from the heating body for connection to a power source.

25. The heating device of claim 17 including a conductive metal ring surrounding said wick passage for transferring heat from said heat conductive material of said heating body to said wick.

26. In a method for producing a heated evaporation device for evaporation of volatile active substances such as aromatics, insecticides, and the like having an electric heating element for heating the evaporative substance, a method for producing a synthetic heating body which includes an electric heating element comprising:

positioning the heating element in a mold; introducing a heat conductive synthetic material into the mold for at least partially encapsulating the heating element to provide an encapsulated synthetic heating body having electrical connectors extending from opposing ends; and removing the encapsulated heating body from the mold.

27. The method of claim 24 including encapsulating the heating element so that electrical connectors connected to said heating element extend from the synthetic heating body .

28. The method of claim 27 including inserting and positioning the heating element in the mold by means of a robot device and removing the heating element by a robot device.

29. The method of claim 26 including incorporating the encapsulated heating
5 body into the evaporation device for heating the substance being evaporated.